



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/317,156	05/24/1999	CHING YU	50100-802	8724

20277 7590 02/11/2003

MCDERMOTT WILL & EMERY
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
----------	--------------

2666

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/317,156

Applicant(s)

YU ET AL.

Examiner

Shick C Hom

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,15-19,21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 5, 13, 14, 20, 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/25/02 have been fully considered but they are not persuasive.

Pei et al. in col. 17 lines 12-23 which recite the scheduler assigns the cell transmit slot to the identified virtual circuit connection VCC clearly anticipate the scheduler assigning slots to ports as in claims 1, 11, 17 and as argued in page 7 lines 2-17 of the amendment of 12/3/02 because a port is merely any physical or logical interface or point of connection.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Art Unit:

Claim Objections

3. Claims 1, 4-7, 10, 14, 16, 17, and 19-21 are objected to because of the following informalities: in claim 1 line 3, and claim 17 lines 4, 6 the words "data packets" seem to refer back to "data packets" recited in claim 1 line 2 and claim 17 line 3, respectively. If this is true, it is suggested changing "data packets" to ---the data packets---. In claim 4 lines 1-2, the words "said programmable information entry" and claim 10 lines 1-2, the words "programmable information entry" seem to refer back to "programmable information entries" recited in claim 1 line 6. If this is true, it is suggested changing "'said programmable information entry" and "a programmable information entry," respectively, to ---said programmable information entries---. In claim 4 lines 2-3, the words "a port" and in claim 17 line 8, the words "respective ports" and claim 19 line 3, the words "the port" seem to refer back to each of "the ports" recited in claim 1 line 2 and claim 17 line 4, respectively. If this is true, it is suggested changing "a port," "respective ports," and "the port" to ---each of the ports---. In claim 5 line 3, the word "are" seems to be a typo. If this is true, it is suggested changing "are" to ---one---. In claim 6 line 3 and claim 7 lines 2 and 3, the words "the

Art Unit:

sequence" seem to refer back to "sequence of memory access slot assignments" recited in claim 6 line 2. If this is true, it is suggested changing "the sequence" to ---the sequence of memory access slot assignments---. In claim 14 line 2, the words "each slot-to-port assignment configuration" seem to refer back to "slot-to-port assignment configuration" in claim 12 line 2. If this is true, it is suggested changing "each slot-to-port assignment configuration" to ---the slot-to-port assignment configuration---. In claim 16 line 2, claim 20 lines 2-3, and claim 21 line 3 the words "memory access slots" seem to refer back to "memory access slots" in claim 11 line 1 and claim 17 line 8, respectively. If this is true, it is suggested changing "memory access slots" to ---the memory access slots---.

Claim Rejections - 35 USC § 112

4. Claims 6-7 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6 line 3 which recite "the sequence" is not clear as to whether it is referring to the "sequence" of claim 6 line 2

Art Unit:

or the "continuously repeating sequence" of claim 6 line 3. In claim 15 line 2 which recite "the sequence" lacks clear antecedent basis because no sequence have been previously recited in the claims and therefore the limitation is not clearly understood.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph because it depend from rejected claim 6.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371[©] of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this

Art Unit:

application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 2, 4, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Pei et al.

Pei et al. disclose all the subject matter now claimed. Note col. 4 lines 8-33 which recite an interface for transmitting ATM cells over a link to a node of an ATM network using a programmable cell transmission scheduler which controls the scheduling of cells for transmission over the link including a scheduling table which is stored in memory, for use by the programmable cell transmission scheduler whereby the scheduling table includes a plurality of lines, each of which contains an index identifying one of a plurality of virtual path connections that may utilize the link and col. 5 lines 3-13 which recite the scheduler using one or more tables to assign traffic of a variety of types into respective cell transmit time slots clearly anticipate the scheduler for selectively assigning memory access slots to ports based on respective programmable information entries as in claims 1, 11, and 17 and the assignment table memory as in claims 2 and 18. Further, col. 17 lines 12-23 which

Art Unit:

recite the scheduler assigns the cell transmit slot to the identified virtual circuit connection VCC clearly anticipate the scheduler assigning slots to ports as in claims 1, 11, 17. Col. 8 line 60 to col. 9 line 4 which recite the cell memory interface including the memory used for storing ATM cells clearly anticipate the second memory for storing data packets and the external memory interface for transferring data packets between the network switch and the second memory as in claim 17. Col. 2 lines 5-39 which recite the user network interface using a single virtual path connection (VPC) identifier and various circuits being differentiated as different virtual circuit connections (VCCs) having different VCC identifiers, both internally in the interface whereby and the scheduler maintains a CBR table including a VCC identifier for each circuit subscribing to CBR service in the order that service is scheduled for the respective circuits clearly anticipate the use of a port operation code as in claims 4 and 19.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. This application currently names joint inventors. In

considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103[®] and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 3, 6, 8-10, 12, 16-19, 21, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al. as applied to claims 1, 2, 4, and 11 above, and further in view of Daniel et al.

Pei et al. did not teach the use of an external controller for storing the programmable information entries into the table

Art Unit:

memory as in claims 3 and 17, writing the assignment configuration from the memory to an assignment configuration memory as in claim 12, the use of a continuously repeating sequence based on a sequence of memory access slot assignments as in claims 6, 21, the step of selecting slot assignments based on detected conditions as in claims 10 and 16, the first memory being an EEPROM as in claim 25, the assignment table memory being a RAM as in claims 8, 23, and being a group of registers as in claims 24, 9.

Daniel et al. teach that it is known to provide an ATMCSI/TU in which a programmable CPU tightly coupled to multiple hardware-coprocessors whereby the interface between the CPU and the hardware coprocessors is defined by multiple data structures which provide bi-directional control and status signaling between the multiple hardware elements and the CPU as set forth at col. 6 lines 55-61 in the field of digital and multiplex communications for the purpose of freeing the APU from doing repetitive data manipulation tasks, while these tasks are performed by one or more hardware-implemented coprocessors using memory mapped data structures and linked lists of data which clearly anticipate the use of an external controller for storing the programmable information entries into the table memory as in claims 3 and 17

Art Unit:

and writing the assignment configuration from the memory to an assignment configuration memory as in claim 12. Col. 5 line 66 to col. 6 line 3 which recite the use of firmware in a specialized enhanced direct memory access module and Fig. 13 which shows the use of RAM clearly anticipate the first memory being an EEPROM as in claim 25, the assignment table memory being a RAM as in claims 8, 23, and being a group of registers as in claims 24, 9. Col. 3 lines 25-39 which recite that differing classes of service are provided to users of ATM systems whereby a cell is transmitted from a given connection on a regularly repeating time interval, perhaps one cell every couple of microseconds and another class of service is transmitted dependent on the video compression technique in use and the video image contents i.e., rate of video image change or frames per second clearly anticipate use of a continuously repeating sequence based on a sequence of memory access slot assignments as in claims 6, 21 and the step of selecting slot assignments based on detected conditions as in claims 10 and 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide for the use of an external controller for storing the programmable information entries into the table memory, writing the assignment

Art Unit:

configuration from the memory to an assignment configuration memory, the use of a continuously repeating sequence based on a sequence of memory access slot assignments, the step of selecting slot assignments based on detected conditions, the first memory being an EEPROM, the assignment table memory being a RAM, and being a group of registers as taught by Daniel et al. to the system of Pei et al. because Daniel et al. teach the desirable advantage of freeing the APU from doing repetitive data manipulation tasks, while these tasks are performed by one or more hardware-implemented coprocessors using memory mapped data structures and linked lists of data to increase speed for transmission and said increased speed for transmission being desirable to achieve more efficient system operation in Pei et al.

Allowable Subject Matter

9. Claims 5, 7, 13-15, 20 and 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit:

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. **Any response to this final action should be mailed to:**

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

Art Unit:

(703) 872-9314, (for formal communications; please mark "EXPEDITED PROCEDURE")

Or:

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742. The examiner's regular work schedule is Monday to Friday from 8:00 am to 5:30 pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao, can be reached at (703) 308-5463.

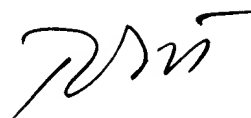
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the

Application/Control Number: 09/317,156

Page 14

Art Unit:

Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



DANTON
PATENT EXAMINER

SH

January 29, 2003